

PHILIPPINE NATIONAL STANDARD

**PNS/BAFS 314:2021
ICS 67.120.20**

Animal Carcass – Chicken – Grading



BUREAU OF AGRICULTURE AND FISHERIES STANDARDS
BPI Compound Visayas Avenue, Diliman, Quezon City 1101 Philippines
Trunkline: (632) 928-8741 to 64 loc. 3301-3319
E-mail: info.dabafs@gmail.com
Website: www.bafs.da.gov.ph

Foreword

In 2019, the National Meat Inspection Service (NMIS) requested the Bureau of Agriculture and Fisheries Standards (BAFS) to develop Philippine National Standards (PNS) for Animal Carcass Grading to serve as guide on the commercial grading of common animal carcass sold as fresh chilled and fresh frozen to the consumers. A Technical Working Group (TWG) was created through Special Order (SO) No. 1092 series of 2018 (Creation of Technical Committees [TC] and its TWG for the Development of PNS for Agriculture and Fisheries Products, Machinery, Tools, and Equipment), SO No. 442, series of 2020 (Creation of TC and its TWG for the Development of PNS for Agriculture and Fisheries Products, Machinery, and Structures), and SO No. 81, series of 2021 (Creation of TWG for the Development of PNS for Agriculture and Fishery Products, Machinery, Tools, and Equipment). The TWG was composed of representatives from the government agencies, academe, and private sector organization. The draft PNS undergone a series of consultations and TWG meetings conducted via face-to-face and online platforms before it was finalized and approved by the DA Secretary in 2021.

This standard aims to be a reference for the commercial grading of chicken carcass to support regulations of the NMIS. This standard is also intended to increase the quality and value of chicken carcass produced by commercial and backyard raisers for the benefit of the consumers.

This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2.

Contents

| | |
|------------------------------------------|----|
| Foreword..... | i |
| 1 Scope..... | 3 |
| 2 Normative References | 3 |
| 3 Terms and Definitions | 3 |
| 4 Minimum Requirements | 3 |
| 5 Chicken Carcass Grading | 4 |
| 6 Packaging, Labeling, and Handling..... | 7 |
| Annex A..... | 9 |
| Bibliography | 12 |

1 Scope

This standard applies to chicken meat intended to be supplied fresh chilled or fresh frozen to the consumer.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

National Meat Inspection Service (NMIS) – Department of Agriculture (DA). (2012). Rules and regulations on hygienic handling of chilled, frozen, and thawed meat in meat markets (DA Administrative Order No. 6, series of 2012). <https://www.officialgazette.gov.ph/2012/01/12/da-administrative-order-no-6-s-2012/>

3 Terms and Definitions

For the purpose of this standard, the following terms and definitions shall apply.

3.1

carcass

body of animal after bleeding and dressing

3.2

fresh chilled carcass

carcass derived from newly slaughtered animal, the temperature of which is brought down to a minimum product internal temperature higher than 0°C and maximum product internal temperature of 4°C during primary processing

3.3

fresh frozen carcass

carcass derived from newly slaughtered animal brought down to a product internal temperature of -18°C or lower

3.4

grading

classifying and sorting poultry according to various groups of conditions and quality characteristics

4 Minimum Requirements

The chicken carcass for grading should pass the inspection to be carried out by the competent authority.

5 Chicken Carcass Grading

5.1 Class A+ should be considered as the premium and highest quality for whole chicken carcass.

5.2 Class A should be considered as the optimum acceptable quality for whole chicken carcass.

5.3 Class B should meet the minimum requirements for whole chicken carcass sold to consumers.

5.4 Only classes A+, A, and B may be sold as whole chicken carcass.

5.5 Class C requires further trimming and should be sold as cut-up chicken after removing the inedible portions, such as those with hematoma, ammonia burns, primary features, bile stains, and the like.

5.6 Whole chicken carcasses should be graded based on the criteria presented in Table 1. The illustration on the types of defects is indicated in Annex A.

Table 1 – Grading of whole chicken carcass

| Physical Characteristics and Defects | Grade | | | |
|-------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| | Class A+ | Class A | Class B | Class C |
| Cleanliness ¹ | General clean appearance | | | |
| Carcass Conformation (Shape) ² | No deformities in the breastbone, legs, or wings. | No obvious deformities in the breastbone, legs, or wings. | Slight deformities in the breastbone, legs, or wings that do not greatly affect the distribution of meat or the appearance of the carcass. | Serious deformities in the breastbone, legs, or wings that greatly affect the distribution of meat and the conformation of the carcass. |
| Fleshing ³ | Well-fleshed Breast is rounded (plump). Keel bone cartilage is not prominent. | Well-fleshed Breast is rounded (plump). Keel bone cartilage is not prominent. | Slightly plump. Keel bone cartilage is slightly protruding | Poorly fleshed and/or emaciated. Keel bone is protruding giving the breast a pointy appearance along the length of the keel. |

| Physical Characteristics and Defects | Grade | | | |
|--------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------|
| | Class A+ | Class A | Class B | Class C |
| Disjointed and broken bones ⁴ | No broken and disjointed bones in all parts | No disjointed and broken bones in major parts – wings and legs | 2 disjointed bones or 1 disjointed and 1 non-protruding broken bone | Minimum exceedance of Class B limits |
| Discoloration of the skin and flesh ^{5,6,7,8} | No discoloration | With minimal discoloration, refer to Table 2 | With moderate discoloration, refer to Table 3 | Minimum exceedance of Class B limits |
| Presence of feathers ¹ | None | 4 pcs scattered in 2 parts at maximum, maximum of 1 cm each | 6 pcs scattered in 3 parts at maximum, maximum of 1 cm each | 6 pcs scattered in 4 parts at maximum, maximum of 1 cm each |
| Skin damage ⁹ | None | With acceptable skin damage (see Table 4) | No part on the carcass has more than one-third of the flesh exposed | Minimum exceedance of Class B limits |
| Missing parts | None | None | None | Yes, due to trimmings |
| Under bled ¹⁰ | No | No | No | No |
| Hematoma ¹¹ | None | None | None | Present |

Footnote:

¹ – few small feathers, quill ends and filoplumes (hair) on the breast, hocks, and wing tips. This can also be used to determine the general clean appearance on the breast and leg. Primary feathers should not be present

² – shape of the carcass is normal and there is no or slight deformities on the breastbones, legs or wings that has significant changes in the normal appearance of the carcass.

³ – amount of meat/ plumpness or the distribution of meat in the carcass; breast is rounded in appearance and meaty along the entire length of the keel or breastbone; drumstick and the leg are thick and wide at the knee and hip joint area and plump appearance down toward the hock and upward to the hip joint area; and consider the size or limit of the area of exposed meat due to cuts, tears, and missing skin.

⁴ – may be caused by too high stunning voltage and during hanging, wings caught on coop door, mangled mostly are due to machine mutilation or over scalding and can be considered under Classes B or C

⁵ – may be caused by over population of chicken during transport and in a rearing house and too high stunning voltage

⁶ – longest diameter

⁷ – carcass or its parts may have areas of discoloration due to bruises, bile stain, etc. and the aggregated size of the area of discoloration must be considered; discoloration at the wingtip or tail end (less than 2cm) is acceptable; bluish or greenish bruises must be trimmed prior grading into Class C; and unbled or incompletely bled birds (“red birds”) are condemned and should not be classified.

⁸ – Moderately shaded discolorations and discolorations due to flesh bruising are free of clots and limited to areas other than the breast and legs except for the area adjacent to the hock.

| Physical Characteristics and Defects | Grade | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|---------|---------|
| | Class A+ | Class A | Class B | Class C |
| ⁹ – skin lesion, breast blisters, exposed flesh, torn, scratches, cuts and hocks, over scald, chlorine burn, and freezer burn. Skin damages incurred at the farm are not acceptable for Classes A+ and A. | | | | |
| ¹⁰ – underbled chicken carcass should be condemned due to food safety issue | | | | |
| ¹¹ - lump formed from a blood clot in tissues or organs | | | | |

5.7 The specific sizes of discoloration for Classes A and B should be as stated in Tables 2 and 3.

Table 2 – Class A discoloration size*

| Discoloration of the skin and flesh ^{5,6,7,8} | Lightly Shaded | | Moderately Shaded | |
|--------------------------------------------------------|-----------------|-----------|-------------------|-----------|
| | Breast and legs | Elsewhere | Breast and legs | Elsewhere |
| Spring | < 2 | < 3 | < 0.6 | < 1.5 |
| Regular | | | | |
| Medium | < 2.5 | < 5 | < 1 | < 2.5 |
| Jumbo | | | | |

*size in centimeters

Table 3 – Class B discoloration size*

| Discoloration of the skin and flesh ^{5,6,7,8} | Lightly or Moderately Shaded | |
|--------------------------------------------------------|------------------------------|-----------|
| | Breast and legs | Elsewhere |
| Spring | < 3 | < 5.7 |
| Regular | < 5 | < 12.7 |

*size in centimeters

5.8 The specific sizes for skin damage for Classes A should be as stated in Table 4.

Table 4 – Class A skin damage size*

| Skin Damage ⁹ | Carcass | |
|--------------------------|-----------------|-----------|
| | Breast and legs | Elsewhere |
| Spring | < 0.6 | < 2.5 |
| Regular | | |
| Medium | < 0.6 | < 3.8 |
| Jumbo | | |

*size in centimeters

5.9 Recommended whole chicken carcasses size and weight classification as shown in Table 5:

Table 5 – Size classification of whole chicken

| Size | Weight (kg) |
|-------------|--------------------|
| Spring Size | 0.75 – 0.90 |
| Regular | 0.91 – 1.30 |
| Medium | 1.31 – 1.50 |
| Jumbo | > 1.50 |

6 Packaging, Labeling, and Handling

The packaging and labeling method shall be in accordance with Section 5 of the *Rules and Regulations on Hygienic Handling of Chilled, Frozen, and Thawed Meat in Meat Markets* (DA Administrative Order No. 6, series of 2012). In addition, when meat is pre-cut and/or pre-packed and labeled the following should apply:

6.1 Pre-cutting and pre-packaging should take place in a designated area of an accredited/registered meat establishment.

6.2 The chicken meat should maintain the required product temperature during pre-cutting and packaging. The chicken meat sold to the consumer shall have a maximum product internal temperature of 10°C for fresh chilled carcass and a maximum product internal temperature of 0°C for fresh frozen carcass during handling, transport, and sale.

6.3 The pre-cutting and packaging area should be kept under good hygienic condition and personnel involved should apply good hygienic practices.

6.4 Primary packaging materials for pre-packaged meat should be:

6.4.1 food grade;

6.4.2 of acceptable barrier properties;

6.4.3 free from any form of impurities or contaminants;

6.4.4 without defects; and

6.4.5 properly handled and kept clean.

6.5 Pre-packaged fresh chilled and fresh frozen carcass shall be labeled with the following information:

6.5.1 Name and type of the product;

6.5.2 Net quantity;

6.5.3 Grade logo for size and class;

6.5.4 Name and address of the meat establishment plant/s and its accreditation number;

6.5.5 Packing date;

6.5.6 Lot identification code; and

6.5.7 Expiry date for fresh frozen carcass.

6.6 The packed meat should be placed in clean, sanitized, and appropriate container.

Annex A
(informative)

Defects in chicken carcass



Figure A.1. Breast blisters



Figure A.2. Broken bone

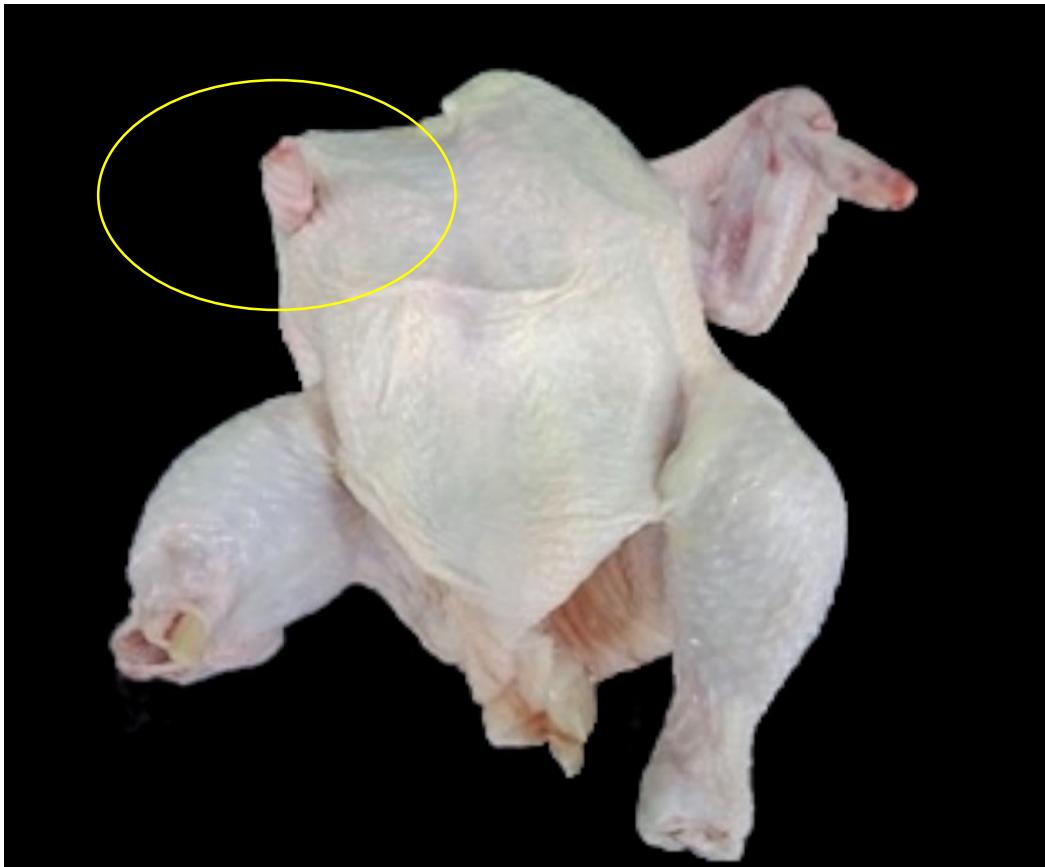


Figure A.3. Missing part

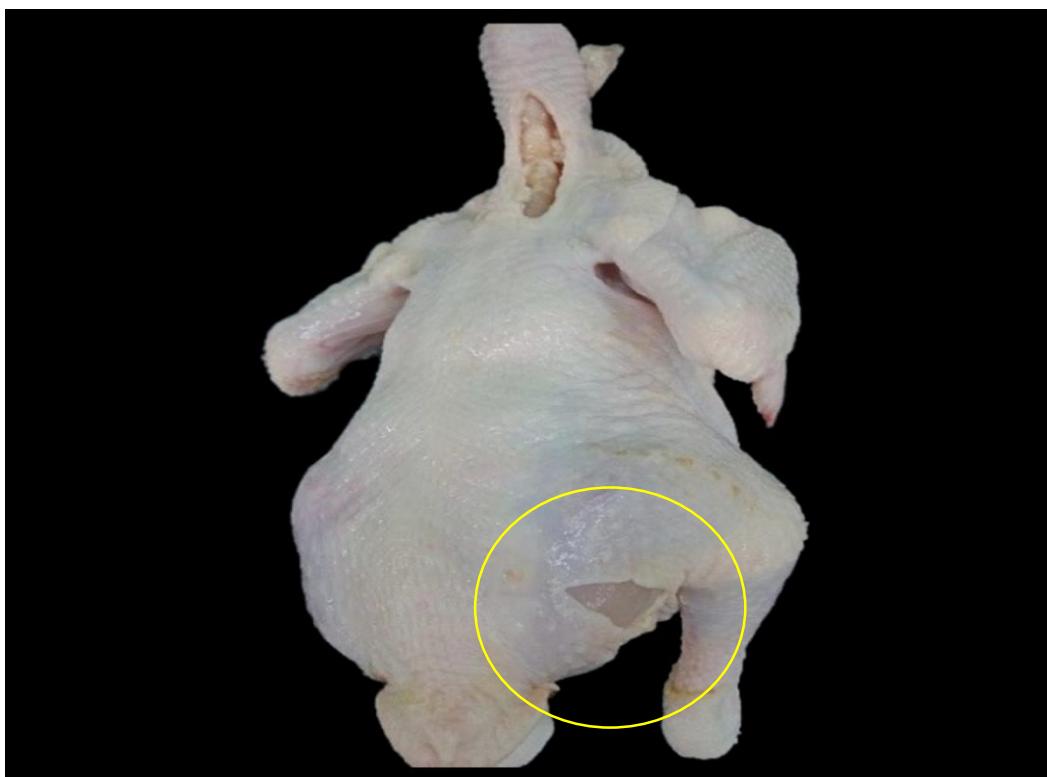


Figure A.4. Exposed flesh

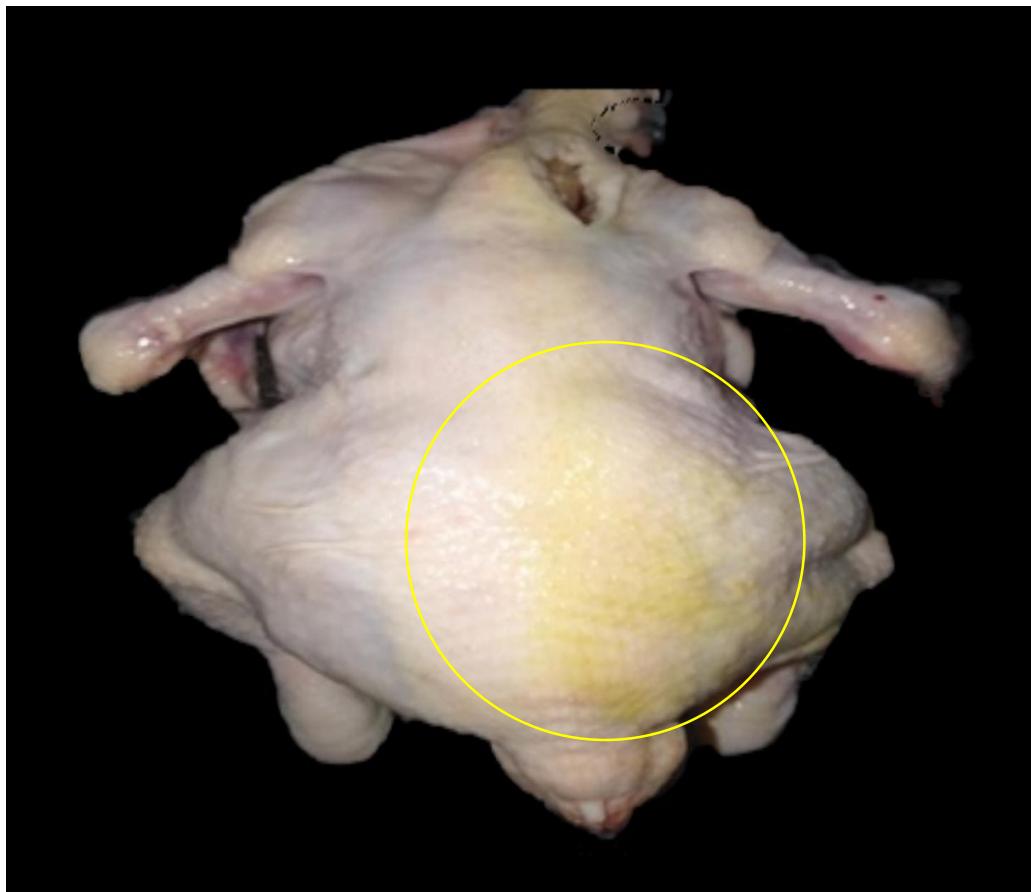


Figure A.5. Bile stain



Figure A.6. Severe Hematoma

Bibliography

Herenda, D., Chambers, P.G., Ettriqui, A., Seneviratna, P., & da Silva, T.J.P. (1994). Manual on meat inspection for developing countries.
<http://www.fao.org/3/t0756e/T0756E02.htm>

Kiepper, B. (2012). Review of the reference guide for solving poultry processing problems.
https://secure.caes.uga.edu/extension/publications/files/pdf/B%201156_1.PDF

National Meat Inspection Service (NMIS) – Department of Agriculture (DA). (2012). Rules and regulations on hygienic handling of chilled, frozen, and thawed meat in meat markets (DA Administrative Order No. 6, series of 2012).
<https://www.officialgazette.gov.ph/2012/01/12/da-administrative-order-no-6-s-2012/>

Republic of the Philippines. (2004). An act strengthening the meat inspection system in the country, ordaining for this purpose a “Meat Inspection Code of the Philippines” and for other purposes (Republic Act No. 9296).
<https://www.officialgazette.gov.ph/2004/05/12/republic-act-no-9296/>

Russell, S. M. (2012). Poultry processing condemnations: A guide to identification and causes. <https://www.wattagnet.com/articles/12666-poultry-processing-condemnations-a-guide-to-identification-and-causes>

United States Department of Agriculture (USDA) – Agriculture and Marketing Services (AMS). (1998). Poultry – grading manual (Agricultural Handbook No. 31).
<https://www.ams.usda.gov/sites/default/files/media/PoultryGradingManual.pdf>

USDA-AMS. (2018). United States classes, standards, and grades for poultry (USDA- AMS 70.200: 2018).
<https://www.ams.usda.gov/sites/default/files/media/PoultryStandard.pdf>

Department of Agriculture (DA)
Bureau of Agriculture and Fisheries Standards (BAFS)
Technical Working Group (TWG) for the Philippine National Standard (PNS) on
Animal Carcass – Chicken – Grading

Chairperson

Cheryl Rose Cayad-an, DVM
DA- National Meat Inspection Service (NMIS)

Members

| | |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 1 Lourdes Ersando, DVM DA- Bureau of Animal Industry (BAI) | 5 Honeylet Nicolas, Ph.D. Bulacan Agricultural State College (BASC) |
| 2 Oliver Abanto, Ph.D. | 6 Errol Angeles |
| 3 Cristy Bueno, Ph.D. | Private Sector Consultant |
| 4 Jorge Michael Dominguez University of the Philippines Los Baños (UPLB) | ret. San Miguel Foods, Incorporated (SMFI) |

BAFS Management Team

Karen Kristine Roscom
Camille Baraquiel
Aljon Reyes

Advisers

Vivencio Mamaril, PhD /
Myer Mula, PhD
DA-BAFS



BUREAU OF AGRICULTURE AND FISHERIES STANDARDS

BPI Compound Visayas Avenue, Diliman, Quezon City 1101 Philippines
T/ (632) 928-8741 to 64 loc. 3301-3319
E-mail: bafs@da.gov.ph
Website: www.bafs.da.gov.ph